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ABSTRACT

Sex-determined differences in socialization were investigated in seven families, two of which contained twins, two of which contained triplets and three of which contained quadruplets. Two psychologists observed the families in their homes from the infants fifth month of age until the children were 3 1/2 to 6 years of age. Children's dependency, helping, and aggressive behaviors and mothers' positive and negative reinforcements of dependency and aggression and her requests for children's assistance were evaluated per visit on a 3-point scale. In addition, children's clothes, hairstyles and play activities were noted, as were the different names and descriptions mothers used in relation to each child. Results indicated that: (1) mothers reinforced boys more often (and discouraged them less) than girls for dependency, but there were no sex differences in dependency behavior: (2) mothers requested assistance from girls more frequently than from boys, and girls behavior was more helpful than that of boys: (3) sex-differentiation in mothers' responses to aggression was not significant, nor were sex differences in aggressive behavior: (4) children who were the odd ones among their multiple-birth siblings in terms of their sex were referred to by sexual labels more often than the majority children: (5) differences in attire appeared around the third year of age: and (6) sex-differentiation in parental responses to their children's play was not significant, although participation in religious activities by the children was sex-differentiated. (Author/SS)

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Maternal Influences in the Formation of Sex Identity and Gender Role Designation Among Differently Sexed Twins, Triplets and Quadruplets

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Though Maccoby and Jacklin (1975) in their book on sex differences found surprisingly little differentiation in the socialization behavior of parents according to the child's sex, Birns (1976) and Block (1978) consider that early environmental shaping of sex differentiated behavior does exist in several crucial areas.

In the many varied strategies used by researchers to investigate if and how parents differentially socialize their sons and daughters, there is one strategy which seems so obvious that it appears to have been overlooked: what might be called a 'natural experiment' occurs when parents rear opposite-sexed multiple infants since in this situation the same parents are faced with two, three or four children of different sex but of the same age, so that both birth-order effects and maternal variables such as age and child-rearing experience of mothers, are held constant.

Using home-observations in the naturalistic environment of mothers and children, maternal reactions to children's aggressive, dependent and helping behaviors were investigated. Based on previous research, these categories were seen as potentially important for differential sex role socialization. Moreover, evidence accumulated in recent years, suggests that stereotypes, existing from the time of the infant's birth, play a role in shaping parental behavior. Such stereotypes can be initiated by assigning a sex label to the infant (Rubin, Proverzano and Luria, 1974; Condry and Condry, 1976 ; Parke, 1978). Labeling then becomes an organizing rubric around which the child constructs ter sex-role definition (Kohlberg, 1966). Dressing the infant in sex-typed clothes serves a similar function (Will, Self and Data, 1976). Hence it was decided to study also the mother's gender-linked talk and her differentiation of her children's appearances and activities on the

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basis of their sex.

Subjects: Seven families consisting of 2 sets of twins, 2 sets of triplets and 3 sets of quadruplets were studied. Each set contained children of both sexes, there being 13 boys and 9 girls in all.

The twin and triplet families all lived in Jerusalem and were born within the same year. The quadruplets were born in different parts of Israel within the same time-period.

Procedure: The families were observed by two psychologists in their homes, monthly for several hours from the infants' fifth month until the end of their second year. Thereafter home-visits took place every two months until the children were 3½ years old. Some children were followed up to age 5 and 6 years.

The observers were non-participant, responding to both mothers and children but not initiating any interactions with them.

Data from the transcripts of observed behavior descriptions were later categorized into areas considered relevant to the study of sex determined differences in socialization.

Children's dependency, helping and aggressive behaviors were all defined operationally and were evaluated per visit on a three-point scale. Likewise mothers' positive and negative reinforcement of dependency and aggression and her requests for children's assistance were evaluated per visit on a three-point scale.

The different names and descriptions of a mother in relation to each child during each observation were also noted down and categorized, as were the children's clothes, hairstyles and play activities.

Results

Mothers' differential reinforcement of dependency

In our families of multiple children, we found that boys had their dependency needs positively reinforced significantly more often by mothers than did girls

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no significant difference was observed between boys and girls on dependency behavior:

($\bar{X}$ 24.6 for boys, $\bar{X}$ 19 for girls; p = 0.03). Mothers also discouraged the boys' dependency-seeking less often than they did that of the girls ($\bar{X}$ 4 for boys, $\bar{X}$ 6.4 for girls; p = 0.04).

In line with mothers' greater dependency-reinforcement of boys, was their more frequent request for assistance from girls who were asked to help $\bar{X}$ 5.7 times each as compared with $\bar{X}$ 2.2 times that boys were asked (p = 0.03). The daughters' assistance was sought not only in the care-taking of younger siblings but in any task that needed to be carried out around the home, such as tidying up or fetching. The girls turned out to be more helpful than their brothers: they helped $\bar{X}$ 6.3 times each, compared with boys' $\bar{X}$ 2.3 times each (p = 0.02).

Child's aggressive behavior

The boys were not significantly more aggressive on their total weighted mean aggressive behavior score than the girls ($\bar{X}$ 6.1 compared with $\bar{X}$ 4.9). The only type of aggression significantly greater in boys than in girls at the 5% level was that directed against parents or parent substitutes: $\bar{X}$ 3.3 compared with $\bar{X}$ 1.3. There was a trend for mothers to negatively reinforce their sons' aggressive behavior more frequently than that of their daughters ($\bar{X}$ 5.4 ~~4.9~~ compared with $\bar{X}$ 3.4). However this was not significant statistically. Mothers' tendency more frequently to reinforce their sons' aggressivity positively than they did that of their daughters ($\bar{X}$ 1.2 compared with $\bar{X}$ 0.6) was also not statistically significant.

Mothers' gender-linked talk

Mothers in each of our families of triplets and quadruplets, referred to the child who was the odd one out as far as his sex was concerned, both by neuter names and by sexual labels. On the other hand, the children who were in the

majority regarding their sex, were almost exclusively referred to by neuter names only, unless they happened to be mother's favorite at that time. Thus, while both the majority and minority sex children had an average of 15 neutral names each, the minority sex child had $\bar{X}$ 7.2 gender-linked labels compared with the majority sex child who had only a $\bar{X}$ 0.54 such labels. On the randomization test for matched pairs (Siegel 1956, p.88) the difference between the percentage of gender names in the minority and majority sex children was 37% ($p = 0.05$).

Consider the following examples:

Ken, the only boy among the QU III quadruplets, was 'the male' for his mother right from the start. His masculinity was stressed already in his fourth month when Mrs. QU III affectionately called him "sonny" and predicted that he would become a boxer. The following month she called him a foot-ball player. Father added that as a male, Ken ought to drink beer. During home-visits during Ken's second year of life, mother tended to refer to him as "the man", saying, for instance: "The man is hungry." Once she prophecied: "He'll become Samson the hero". She would address him as "Sir" and on his second birthday called him "Mr. B." On the other hand, the three girls among the quadruplets were addressed by mother with nouns or adjectives, non-defined by gender, such as "dancer", "angel", "monkey", "doll", "beautiful", "naughty", "sociable". Only three times during all the observations in this family was a girl's gender stressed by mother, as for instance, when she called Leah a "Beauty Queen".

The labeling of children on the basis of sex at times meant that mothers perceived them as embued with certain qualities which they attributed to that particular sex. The qualities were often positive or negative, based on mother's personal preferences and dislikes. Usually they corresponded to the stereotypes about masculinity and femininity prevalent in their culture. Thus:

Mrs. TW I termed her boy-twin, Ruben, aged 7 months, "naughty, wild, starting to touch everything, a bandit". She added: "In my family the boys are more

difficult." On the other hand, mother described the girl-twin, Ruby, as "sweet, more delicate and easier. A good girl". She predicted: "Ruby will be like her older sister, wanting to help me in everything. In our family the girls are better." Mrs. TWI called the boy, aged two years, 'king of the naughty ones and full of pepper". She did not even suspect Ruby of aggressive behavior, though it was she who repeatedly pulled her baby-brother's hair. Yet during the same observation, mother twice wrongly suspected Ruben of hitting his baby-brother. Mother obviously expected Ruben to be even more aggressive than he actually was.

What can be called 'sex typing' did not take place merely on the basis of positive or negative qualities. Yet it always revealed how a mother perceived her own or the opposite sex. Thus,

Mrs. QU II, mother of three boys and one girl quadruplet, saw the girl's behavior as gender-linked when her 22 month-old daughter helped her fold the laundry. Mother told us that Helga "likes to help. You can feel that she has to be a housewife." A few months later, Mrs. QU II related: "She is a girl, she likes to do things for me", though mother added: "They all like to fold clothes." Yet for this mother there was obviously no connotation of femininity or housewifeliness when the boys carried out the same activities as their sister.

Mothers' differentiation of children's appearances and activities as function of child's sex

When and how did mothers make their boy-girl twins, triplets and quadruplets look different from each other? The results show that appearance differentiation was not made by mothers in their children's infancy but usually began only in the third year of their children's lives.

a) Hair-styles

The average age at which boys had their first hair-cut was 29 months with a range of 27 to 36 months.

b) Clothes

Differentiation of children's clothes on the basis of sex, also came relatively late. In only one family was there a pink-blue dichotomy for girls and boys and this only in the infants' fifth and ninth months. In all our families mothers dressed their twins/trips/quads in one another's clothes. The question of the ownership of clothes on the basis of sex, did not usually arise until the fourth year of life.

Mothers generally let their daughters wear dresses only from around their third year and even then only rarely. The earliest age at which we saw a girl wearing a dress was 26 months. Two other girls wore dresses at 34 and 41 months respectively. None of the remaining girls wore dresses at any of the home-observations.

The skull-cap turned out to be a gender-distinguishing feature in children's clothes among all three traditionally oriented, religious families in our sample. Usually religious families let their boys wear a skull-cap from the end of their second year, at least on Sabbath. Very religious families had an additional sex-distinguishing item of clothing: the tsitsit, a ritual four-cornered, fringed garment, part of his underwear of every male who is religiously observant. The TR I boys acquired their first tsitsit when three years old and Shula explained: "If a girl wears tsitsit, she becomes a boy".

c) Jewelry

Mothers and children generally set more store on items of jewelry than on clothes for purposes of differentiating between the sexes. Thus, Mrs. TW II emphasized already from the time her son was one year old, that a bracelet is not for boys. A year later she would not let him wear a brooch. In all remaining six families, it was only from the third year that parents emphasized jewelry as wearable

exclusively by girls. Here there was a range from 28 to 43 months.

Activities including play and the acquisition of skills

Only seldom were children actively discouraged from playing with opposite sex-typed toys or encouraged to play with same sex-typed ones by the parents in this study. Thus Mrs. QU II was unique among mothers, when she presented Helga, her only girl-quad, aged 26 months, with a doll, explaining: "A doll is for girls." At the same time, she gave Ari, one of the boy-quads, a teddy-bear. All other mothers enabled both their sons and daughters to play with dolls even when they were 3½ years old.

Very rarely, a mother or mother-figure did not want to allow one of the multiple children to engage in a certain activity because, in her mind, that activity was linked with a particular gender. Thus,

> The grandmother of the QU III quads brought wool and knitting-needles only for the three girl quads when they were 40 months old. She withheld the wool and needles from Ken, explaining: "A man doesn't need to knit." Ken was deeply upset about this and repeatedly beckoned to be taught this skill until one of his sisters comforted him with: "When you'll be a girl, you can knit." On the other hand, only Ken, at a later age, was regularly taken to foot-ball matches by father. The girls accompanied them only on occasion.

For very religious families, with a high degree of sex segregation, there were additional activities differentiated on the basis of gender:

> Only the hair of the TR I boys was cut the first time in a special ceremony at the Wailing Wall, when they were three years old. Only they as boys had to kindle Hanukkah lights, though at age three, Shula also insisted on lighting Hanukkah candles. Moreover, it was the boys who at 3½ years were taken to Synagogue by father, while Shula stayed home with mother even on Purim (Feast of Esther) when children have special fun at

the Synagogue Service. Mother explained: "Father cannot look after three young children in Synagogue and boys have priority in this". When the triplets were 4½ years old, mother stressed that only Shula had to help her with the Passover spring cleaning. The boys had to help father to clean the books. At this time, Shula was no longer unhappy not to be taken to Synagogue like her brothers. She had become reconciled to the fact that she would go there with her mother only at the time of festivals. Nor did she any longer want to kindle Hanukkah lights. In fact, she proudly announced that she is a girl.

The TR I boys were sent to a different educational establishment than their sister at age 2 1/4 years and this at a time when these triplets still wore their hair long and were dressed in similar pants. Only the boys, at their all-boy nursery-school, run in Yiddish by a male teacher, were taught to read from the age of three. There was little play and from the age of five, boys learned until 4 p.m. Shula, on the other hand, was sent to a nursery-school for girls, run by women teachers in Hebrew, the language of the environment. Her school-day ended at 12 a.m. Not only was most of the girls' time spent on play activities, but their vacations were also longer. Thus, the different sex roles were non-ambiguously defined from the earliest years by the very religious society in which the TR I family lived.

Discussion

When mothers' behavior in the actual child rearing situation is observed, it can be seen that they treat their male and female infant twins/trips/quads differently, right from the beginning, though they appear to be unaware that they do so.

Mothers' differential reinforcement as a function of the child's sex

a) Dependency

Our evidence shows that with differently sexed twins/trips/quads, the girls were consistently rewarded for independent behavior while the boys' dependency was positively rewarded by mothers. How can we account for this discrepancy?

Since girls mature faster than boys (Carai and Scheinfeld, 1968) it is likely that girls will be independent at earlier ages than boys. It would seem as if our mothers encouraged Nature, probably due to their special situation in which they had to look after several young children at the same time. In such a situation, a relatively independent daughter, apart from being less of a burden on her mother, would also be able to assist her sooner. Moreover, due to the stereotype of girl as helper, such independent behavior in the girl reinforces the feminine image. In fact, this study provides clear evidence that mothers requested help from their daughters significantly more than from their sons.

On the other hand, keeping the sons relatively dependent, enabled mothers in this study to have more physical contact with them, which they enjoy especially since the male child is favored in the traditional and Oriental environments.

b) Aggressive behavior

The boys' greater state of readiness to display aggressive behavior was not confirmed by our weighted score, though the tendency was as predicted. Probably with larger numbers of subjects the results would have been significant. The tendency for mothers to react both more negatively and more positively to boys aggression is in line with Maccoby and Jacklin's 1974 findings.

Mothers' gender -linked talk

Labeling was found to be the most prevalent means at mothers' disposal, enabling them to distinguish clearly between their twins/trips/quads. Thereby they stressed the differences between their children. This measure, probably used by parents without their conscious awareness, may also appear in relation to their single children. However, it is the author's impression that parents of multiple infants have more recourse to this device, since the need to individualize the children is greater in these instances (Goshen-Gottstein, 1979).

Mothers' differentiation of children's appearance and activities

Appearance and activity differentiation were not made by our mothers in infancy but began only in the third year of the children's lives. Money and Ehrhardt (1972) speak of a newborn's sex being publicly declared by color-coding of blue for boys and pink for girls long before the infant has enough hair for a boy's or girl's hair-cut. This did not apply to our sample since we are probably dealing with a cultural factor here.

We have shown that whatever parents do to differentiate the appearances and activities of their sons and daughters, comes relatively late in the children's lives, when they have already learned the concepts of male and female, have acquired the knowledge of stereotypes of masculinity and femininity prevalent in their culture (Stoller, 1968) and have already developed sex-interests (Bandura and Walters, 1977).

There is hardly any evidence in our study that would suggest that mothers discourage their children, especially their sons, from engaging in activities they considered appropriate only for the opposite sex, as Maccoby and Jacklin (1975, p. 339) had led us to expect. It would seem that mothers of twins/trips/quads expect their sons to engage in the same activities as their daughters, at least during their early childhood.

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